

REMARKS

Reconsideration of the application in view of the above amendments and the following remarks is requested. Claims 4-16 and 18-24 are in this application. Claims 4, 5, 7, 11, 18, 19, and 20 have been amended. Claims 1-3 and 17 have been cancelled. Claims 21-24 have added to additionally claim the present invention.

The Examiner rejected claims 1 and 17 under 35 U.S.C. §102(b) as being anticipated by Ingram et al. (U.S. Patent No. 5,562,781). The Examiner also rejected claims 1-9 and 17-19 under 35 U.S.C. §102(e) as being anticipated by Hopper et al. (U.S. Patent No. 6,646,318). As noted above, claims 1 and 17 have been cancelled. For the reasons set forth below, applicant respectfully traverses these rejections as applied to the remaining claims.

Claim 5, which has been amended to be in independent form, recites, in part,

“a first region of semiconductor material, the first region of semiconductor material having a first conductivity type, the first semiconductor region being free of germanium;

“a second region of semiconductor material located on the first region of semiconductor material, the second region of semiconductor material having a second conductivity type, the second semiconductor region being free of germanium; and

“a third region of semiconductor material located on the second region of semiconductor material, the third region of semiconductor material including silicon and germanium and having the second conductivity type.”

Thus, the second and third regions of claim 5 must have the same conductivity type, and the first and second regions must be free of germanium. In addition, method claim 18 also requires that the second and third regions have the same conductivity type, and the first and second regions be free of germanium.

With respect to the Hopper reference, if the third regions of claims 5 and 18, which have a second conductivity type, are read to be the n+ region of layer 212 shown in FIG. 2 of Hopper, then the p- region of layer 212 of Hopper can not be read to be second regions of claims 5 and 18 because the second regions must have the same conductivity type as the third regions. Similarly, if the third regions of claims 5 and 18 are read to be the n+ region of layer 216 of Hopper, then the p- region of layer 216 of Hopper can not be read to be second regions of claims 5 and 18 because the second regions must have the same conductivity type as the third regions.

In addition, if the third regions of claims 5 and 18, which include germanium, are read to be the p- region of layer 216 shown in FIG. 2 of Hopper, and the second regions of claims 5 and 18 are read to be the p- region of layer 214, then the first regions of claims 5 and 18 can not be read to be the n+ region of layer 212 of Hopper because the first regions of semiconductor material must be free of germanium. As indicated by the Examiner, Hopper teaches that n-type layer 212 includes silicon germanium.

Thus, since there is no region which can be read to be the second regions of claims 5 and 18 when the second conductivity type is read to be n-type, and no region which can be read to be the first regions of claims 5 and 18 when the second conductivity type is read to be p-type, claims 5 and 18 are not anticipated by the Hopper reference.

In addition, since claims 4-6 and 21-22 depend either directly or indirectly from claim 5, claims 4-6 and 21-22 are not anticipated by the Hopper reference for the same reasons as claim 5. Further, since claim 19 depends from claim 18, claim 19 is not anticipated by the Hopper reference for the same reasons as claim 18. (Claim 20 was objected to, but is alternately not anticipated for the same reasons as claim 18.)

Claim 7, which has been amended to be in independent form, recites, in part,

“a first region of semiconductor material, the first region of semiconductor material having a first conductivity type;

“a second region of semiconductor material located on the first region of semiconductor material, the second region of semiconductor material having a second conductivity type;

“a third region of semiconductor material located on the second region of semiconductor material, the third region of semiconductor material including silicon and germanium and having the second conductivity type; and

“a fourth region of semiconductor material located on the third region of semiconductor material, the fourth region of semiconductor material having the second conductivity type and being free of germanium.

As with claim 5, if the third region of claim 7, which has a second conductivity type, is read to be the n+ region of layer 212 shown in FIG. 2 of Hopper, then the p- region of layer 212 of Hopper can not be read to be second region of claim 7 because the second region must have the same conductivity type as the third region. Similarly, if the third region of claim 7 is read to be the n+ region of layer 216 of Hopper, then the p- region of layer 216 of Hopper can not be read to be second region of claim 7 because the second region must have the same conductivity type as the third region.

Further, if the third region of claim 7 is read to be the p- region of layer 216 shown in FIG. 2 of Hopper, then the n+ region of layer 216 of Hopper can not be read to be fourth region of claim 7 because the fourth region must have the same conductivity type as the third region. In addition, if the third region of claim 7 is read to be the p- region of layer 214 shown in FIG. 2 of Hopper, then the n+ region of layer 212 of Hopper can not be read to be second region of claim 7 because the second region must have the same conductivity type as the third region.

Thus, since the limitations of claim 7 can not be read onto the Hopper reference, claim 7 is not anticipated by the Hopper reference. In addition, since claims 8-9 and 23-24 depend either directly or indirectly from claim 7, claims 8-9

and 23-24 are not anticipated by the Hopper reference for the same reasons as claim 7. (Claim 10 was objected to, but is alternately not anticipated for the same reasons as claim 7.)

The Examiner objected to claims 10-16 and 20, but indicated that these claims would be allowable if rewritten to be in independent form to include all of the limitations of the base claim and any intervening claims. Claim 11 has been amended to be in independent form, and is believed to include all of the limitations of the base claim and any intervening claims. Claims 10, 12-16, and 20 have not been amended to be in independent form because the base claims of claims 10 and 20 are believed to be patentable, and claims 12-16 depend either directly or indirectly from claim 11.

Thus, for the foregoing reasons, it is submitted that all of the claims are in a condition for allowance. Therefore, the Examiner's early re-examination and reconsideration are respectively requested.

Respectfully submitted,

Dated: 5-24-04

By: Mark C. Pickering  
Mark C. Pickering  
Registration No. 36,239  
Attorney for Assignee

P.O. Box 300  
Petaluma, CA 94953-0300  
Telephone: (707) 762-5500  
Facsimile: (707) 762-5504  
Customer No. 33402